Abstract of the Invention

The invention provides methods and systems for monitoring effects of chemical agents on optical signals produced by samples in response to the chemical agents. Preferred methods comprise application of multiple chemical agents that interact to alter an optical signal from the sample. Methods and systems of the invention also comprise monitoring an optical signal from an endogenous chromophore upon application of a chemical agent to a sample. Methods and systems of the invention also comprise the use of triggers, atomizers and image alignment to enhance the results of methods described herein.